

I CLAIM:

1. A cover assembly for a gap between two structural members comprising:

5 an elongated resilient cover having a load bearing surface opposite a support surface including marginal support areas along opposite lateral edges thereof, said cover having a thickness and sufficient elasticity to elastically deform for establishing supporting contact between said marginal support areas and underlying horizontal structural members adjacent to a gap between said horizontal structural members;

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a rigid plate member secured by and encapsulated within said elongated resilient cover for bridging a gap between said horizontal structural members; and

15 a plurality of fasteners engaged with said cover at spaced apart sites along at least one lateral side portion of said cover for elastically anchoring said elongated resilient cover to at least one of said horizontal structural members.

2. The cover assembly of claim 1, wherein said elongated resilient cover comprises peripheral edges including tapered face surfaces for providing incline
20 planes to bear traffic traversing the cover.

3. The cover assembly of claim 1, wherein said load bearing surface of said elongated resilient cover includes spaced apart upstanding ribs arranged to extend transversely to the direction of traffic traversing the cover.

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4. The cover assembly of claim 1, wherein said fasteners are selected from the group consisting of screws, nails and rivets.

5. The cover assembly of claim 1, wherein said elongated resilient cover
30 comprises an elastomeric material.

6. The cover assembly of claim 5, wherein said elastomeric material is selected from the group consisting of butadiene rubber, styrene-butadiene rubber, butyl rubber, ethylene-propylene rubber, ethylene-propylene-diene rubber, polyisoprene rubber, polychloroprene rubber, silicon rubber, nitrile rubber and blends thereof.

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7. The cover assembly of claim 6, wherein said elastomeric material is ethylene-propylene-diene rubber.

8. The cover assembly of claim 1, comprising at least two rigid plate members secured by and encapsulated within said elongated resilient cover to extend along opposite lateral sides of said rigid plate member.

9. The cover assembly of claim 8, wherein said at least two rigid plate members are provided to allow elastic deformation of said cover and apply a biasing force in a direction to urge opposite lateral sides of said cover toward the horizontal structural members while resiliently deformed by traffic traversing said traffic bearing surface.

10. The cover assembly of claim 8, wherein said elongated resilient cover comprises peripheral edges including tapered face surfaces for providing incline planes to bear traffic traversing the cover.

11. The cover assembly of claim 8, wherein said load bearing surface of said elongated resilient cover includes spaced apart upstanding ribs arranged to extend transversely to the direction of traffic traversing the cover.

12. The cover assembly of claim 8, wherein said fasteners are selected from the group consisting of screws, nails and rivets.

13. The cover assembly of claim 8, wherein said elongated resilient cover comprises an elastomeric material.

14. The cover assembly of claim 13, wherein said elastomeric material is
5 selected from the group consisting of butadiene rubber, styrene-butadiene rubber, butyl rubber, ethylene-propylene rubber, ethylene-propylene-diene rubber, polyisoprene rubber, polychloroprene rubber, silicon rubber, nitrile rubber and blends thereof.

10 15. The cover assembly of claim 14, wherein said elastomeric material is ethylene-propylene-diene rubber.

16. A cover assembly for a gap between horizontal structural members comprising:

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an elongated resilient cover having a predetermined width sufficient to overlie portions of horizontal structural members outwardly of marginal edges to a gap between the horizontal structural members;

20 a rigid plate member secured by and encapsulated within said elongated resilient cover, said rigid plate member defining an elongated bridging member having a width sufficient to span the width of a gap between horizontal structural members while secured thereby; and

25 a plurality of fasteners to anchor said resilient cover along at least one marginal edge of said resilient cover to at least one of said horizontal structural members.

17. The cover assembly of claim 16, wherein said elongated resilient cover comprises peripheral edges including tapered face surfaces for providing incline planes to bear traffic traversing the cover.

5 18. The cover assembly of claim 16, wherein said load bearing surface of said elongated resilient cover includes spaced apart upstanding ribs arranged to extend transversely to the direction of traffic traversing the cover.

19. The cover assembly of claim 16, wherein said fasteners are selected from the
10 group consisting of screws, nails and rivets.

20. The cover assembly of claim 16, wherein said elongated resilient cover comprises an elastomeric material.

15 21. The cover assembly of claim 20, wherein said elastomeric material is selected from the group consisting of butadiene rubber, styrene-butadiene rubber, butyl rubber, ethylene-propylene rubber, ethylene-propylene-diene rubber, polyisoprene rubber, polychloroprene rubber, silicon rubber, nitrile rubber and blends thereof.

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22. The cover assembly of claim 21, wherein said elastomeric material is ethylene-propylene-diene rubber.

23. The cover assembly of claim 16, comprising at least two rigid plate members
25 secured by and encapsulated within said elongated resilient cover to extend along opposite lateral sides of said rigid plate member.

24. The cover assembly of claim 23, wherein said at least two rigid plate
members are provided to allow elastic deformation of said cover and apply a biasing
30 force in a direction to urge opposite lateral sides of said cover toward the horizontal

structural members while resiliently deformed by traffic traversing said traffic bearing surface.

25. The cover assembly of claim 23, wherein said elongated resilient cover
5 comprises peripheral edges including tapered face surfaces for providing incline planes to bear traffic traversing the cover.

26. The cover assembly of claim 25, wherein said load bearing surface of said elongated resilient cover includes spaced apart upstanding ribs arranged to extend
10 transversely to the direction of traffic traversing the cover.

27. The cover assembly of claim 25, wherein said fasteners are selected from the group consisting of screws, nails and rivets.

15 28. The cover assembly of claim 25, wherein said elongated resilient cover comprises an elastomeric material.

29. The cover assembly of claim 28, wherein said elastomeric material is selected from the group consisting of butadiene rubber, styrene-butadiene rubber,
20 butyl rubber, ethylene-propylene rubber, ethylene-propylene-diene rubber, polyisoprene rubber, polychloroprene rubber, silicon rubber, nitrile rubber and blends thereof.

30. The cover assembly of claim 29, wherein said elastomeric material is
25 ethylene-propylene-diene rubber.

31. An expansion joint for a building structure comprising:

two spaced structural members defining a gap therebetween; and

a cover assembly comprising an elongated resilient cover having a load bearing surface opposite a support surface including marginal support areas along opposite lateral edges thereof, said cover having a thickness and sufficient elasticity to elastically deform for establishing supporting contact between said marginal
5 support areas and underlying horizontal structural members adjacent an expansion joint;

a rigid plate member secured by and encapsulated within said elongated resilient cover for bridging a joint formed in a gap between said horizontal structural
10 members; and

a plurality of fasteners engaged with said cover at spaced apart sites along at least one lateral side portion of said resilient cover to elastically anchor said elongated resilient cover to at least one of the horizontal structural members.

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32. The cover assembly of claim 31, wherein said elongated resilient cover comprises peripheral edges including tapered face surfaces for providing incline planes to bear traffic traversing the cover.

20 33. The cover assembly of claim 31, wherein said load bearing surface of said elongated resilient cover includes spaced apart upstanding ribs arranged to extend transversely to the direction of traffic traversing the cover.

25 34. The cover assembly of claim 31, wherein said fasteners are selected from the group consisting of screws, nails and rivets.

35. The cover assembly of claim 31, wherein said elongated resilient cover comprises an elastomeric material.

36. The cover assembly of claim 35, wherein said elastomeric material is selected from the group consisting of butadiene rubber, styrene-butadiene rubber, butyl rubber, ethylene-propylene rubber, ethylene-propylene-diene rubber, polyisoprene rubber, polychloroprene rubber, silicon rubber, nitrile rubber and
5 blends thereof.

37. The cover assembly of claim 36, wherein said elastomeric material is ethylene-propylene-diene rubber.

10 38. The cover assembly of claim 31, comprising at least two rigid plate members secured by and encapsulated within said elongated resilient cover to extend along opposite lateral sides of said rigid plate member.

15 39. The cover assembly of claim 38, wherein said at least two rigid plate members are provided to allow elastic deformation of said cover and apply a biasing force in a direction to urge opposite lateral sides of said cover toward the horizontal structural members while resiliently deformed by traffic traversing said traffic bearing surface.

20 40. The cover assembly of claim 38, wherein said elongated resilient cover comprises peripheral edges including tapered face surfaces for providing incline planes to bear traffic traversing the cover.

25 41. The cover assembly of claim 40, wherein said load bearing surface of said elongated resilient cover includes spaced apart upstanding ribs arranged to extend transversely to the direction of traffic traversing the cover.

42. The cover assembly of claim 40, wherein said fasteners are selected from the group consisting of screws, nails and rivets.

43. The cover assembly of claim 40, wherein said elongated resilient cover comprises an elastomeric material.

44. The cover assembly of claim 43, wherein said elastomeric material is
5 selected from the group consisting of butadiene rubber, styrene-butadiene rubber, butyl rubber, ethylene-propylene rubber, ethylene-propylene-diene rubber, polyisoprene rubber, polychloroprene rubber, silicon rubber, nitrile rubber and blends thereof.

10 45. The cover assembly of claim 44, wherein said elastomeric material is ethylene-propylene-diene rubber.

46. A method for the installation of a cover assembly across a gap between two structural members comprising:

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providing a cover assembly comprising an elongated resilient cover having a load bearing surface opposite a support surface including marginal support areas along opposite lateral edges thereof, said cover having a thickness and sufficient elasticity to elastically deform for establishing supporting contact between said
20 marginal support areas and underlying horizontal structural members;

a rigid plate member secured by and encapsulated within said elongated resilient cover for bridging a joint formed in a gap between said horizontal structural members; and

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a plurality of fasteners engaged with said cover at spaced apart sites along at least one lateral side portion of said resilient cover to elastically anchor said elongated resilient cover to at least one of the horizontal structural members; and

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placing said cover assembly across said gap.

47. The method of claim 46, wherein the cover assembly further comprises at least two plate members encapsulated by said elongated resilient cover to extend along opposite lateral sides of said rigid plate member for allowing elastic deformation of said cover and apply a biasing force in a direction to urge opposite
- 5 lateral sides of said cover toward the horizontal structural members while resiliently deformed by traffic traversing said traffic bearing surface.